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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/768,431
Filing Date: January 30, 2004
Appellant(s): BARCLAY ET AL.

James Milton
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 23, 2011 appealing from the Office action mailed June 14, 2011.

(1) Related Appeals and Interferences

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellants' statement on the status of the amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of the claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellants' statement on the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

20020025824	Lin	2-2002
7,039,403	Wong	10-2001
6,266,514	O'Donnell	7-2001
6,233,448	Alperovich et al	5-2001
6,832,086	Powers	6-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 18, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lin 20020025824** in view of **Wong 7,039,403**.

Regarding **claim 1**, Lin discloses an apparatus, comprising: a network component (see fig. 1, p.2, [0032]) operable to employ a) one or more call characteristics to make a determination to initiate a request to a switch component for one or more positions of one or more mobile stations (p.5, [0072]-[0073]; phone number may be used, or a call requested, to thereby obtain a location information from a switch (base station)) and b) at least one call parameters to identify one or more cellular network cells associated with the one or more mobile stations (p.5, [0072]), wherein the at least one call parameter employed to identify one of the one or more cellular network cells is a telephony number of at least one of the one or more mobile stations (initiating a call would necessitate a correct location, wherein calling a phone results in obtaining location, the phone number called would be associated with a location area identifier, see p.3-4, [0052]-[0054]); and wherein the network component is operable to receive, in response to the request, the one or more positions of the one or more mobile stations from a position component operable to determine the one or more positions of the one or more mobile stations continuously (see

p.5, [0071]-[0075], especially [0073] wherein it indicates that the location is updated continuously).

Lin does not disclose wherein the network component comprises one of a magnetic, optical, biological, or atomic data storage medium.

Wong however, discloses a network component comprising one of magnetic, optical, biological, or atomic data storage medium (HLR with optical or magnetic storage device, see fig. 2, col. 5, lines 3-18).

It what therefore have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching Wong into the Lin by having a network component that comprises one of a magnetic, optical, biological, or atomic data storage medium such as an optical or magnetic data storage for the purpose of storing subscriber information in the network element.

Regarding **claim 18**, Lin discloses a method, comprising the steps of: initiating a request from a network component to a switch component for one or more positions of one or more mobile stations through employment of a) one or more call characteristics (p.5, [0072]-[0073]; phone number may be used, or a call requested, to thereby obtain a location information from a switch (base station)) and b) at least one call parameter to identify one or more cellular network cells associated with the one or more mobile stations (p.5, [0072]), wherein the at least one call parameter employed to identify one of the one or more cellular network cells is a telephony number of at least one of the one or more mobile stations (initiating a call would necessitate a correct location, wherein calling a phone results in obtaining location, the phone number called

would be associated with a location area identifier, see p.3-4, [0052]-[0054]); receiving, in response to the request, the one or more positions of the one or more mobile stations (see p.5, [0071]-[0075], especially [0073] wherein it indicates that the location is updated continuously); and determining the one or more positions of the one or more mobile stations continuously (see p.5, [0071]-[0075], especially [0073] wherein it indicates that the location is updated continuously).

Lin does not disclose wherein the network component comprises one of a magnetic, optical, biological, or atomic data storage medium.

Wong however, discloses a network component comprising one of magnetic, optical, biological, or atomic data storage medium (HLR with optical or magnetic storage device, see fig. 2, col. 5, lines 3-18).

It what therefore have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching Wong into the Lin by having a network component that comprises one of a magnetic, optical, biological, or atomic data storage medium such as an optical or magnetic data storage for the purpose of storing subscriber information in the network element.

Regarding **claim 24** as applied to claim 1, Lin further discloses a network component that that is operable to employ the at least one call parameter to identify one or more cellular network cells associated with the one or more mobile stations (see p.5, [0071]-[0074]).

3. Claims 2-17, 19, 20, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lin 20020025824** in view of **Wong 7,039,403** and **O'Donnell 6,266,514**.

Regarding **claim 2** as applied to claim 1, Lin as modified by Wong discloses the claimed limitation except discloses wherein the network component is operable to perform a comparison of the one or more call characteristics with one or more thresholds to make the determination to initiate the request for the one or more positions of the one or more mobile stations.

In the same field of endeavor, O'Donnell discloses a network component (base station controller BSC, see figs. 3, lines 33-38) operable to perform a comparison of the one or more call characteristics (measurements are compared to specified threshold values, signal strength, see col. 6, lines 6-23, 39-46) with one or more thresholds (see col. 6, lines 6-23) to make the determination to initiate the request for the one or more positions of one or more mobile stations (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 3** as applied to claim 2, Lin as modified by Wong and O'Donnell discloses the claimed limitation. O'Donnell further discloses wherein the one or more call characteristics comprise a pilot signal strength characteristic (signal strength, see col. 6, lines 39-46), and wherein the one or more thresholds comprise a pilot signal strength threshold (see col. 6, lines 6-23), and wherein the network component (base station controller BSC, see figs. 3, lines 33-38) is operable to perform a comparison of the pilot signal strength characteristic with the pilot signal strength threshold (measurements are compared to specified signal strength threshold values, see col. 6, lines 6-23, 39-46); and wherein the network component makes the determination to initiate the request for the one or more positions of the one or more mobile stations based on a result of the comparison of the pilot signal strength characteristic with the pilot signal strength threshold (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 4** as applied to claim 2, Lin as modified by Wong and O'Donnell discloses the claimed limitation. O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) is operable to perform the one or more call characteristics (signal strength, see col.

6, lines 39-46) to create one or more call statistics (dropped calls see col. 6, lines 60-63), and wherein the one or more thresholds comprise one or more call characteristic thresholds (see col. 6, lines 6-23) and one or more call statistic thresholds (accumulation of dropped calls, see col. 6, lines 60-67, col. 7, lines 1-7); and wherein the network component is operable to perform a comparison of the one or more call statistics with the one or more call statistic thresholds (when dropped calls are identified, the positioning function of the BSC is activated to determine the location of the mobile station, see col. 6, lines 60-67, col. 7, lines 1-9); and wherein the network component is operable to perform a comparison of the one or more call characteristics with the one or more call characteristic thresholds (measurements are compared to specified signal strength threshold values, see col. 6, lines 6-23, 39-46) and the comparison of the one or more call statistics with the one or more call statistic thresholds to make the determination to initiate the request (when dropped calls are identified, the positioning function of the BSC is activated to determine the location of the mobile station, see col. 6, lines 60-67, col. 7, lines 1-9).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 5** as applied to claim 2, Lin as modified by Wong and O'Donnell discloses the claimed limitation. O'Donnell further discloses wherein

the network component (base station controller BSC, see figs. 3, lines 33-38) comprises an interface (inherent since the BSC receives one or more quality characteristic threshold levels from the operations and management center, OMC 1, thereby requiring that the BSC have an interface to receive the threshold values from the OMC, see figs. 3 and 4, col. 3, lines 60-66), and wherein the network component is operable to receive the one or more thresholds from a service provider (operations and management center, OMC 1, see figs. 3 and 4, col. 3, lines 60-66) through employment of the interface (BSC receives one or more quality characteristic threshold levels from the operations and management center, OMC 1, see figs. 3 and 4, col. 3, lines 60-66).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin, Wong and O'Donnell by employing one or more quality thresholds at the BSC in order to determine different levels of network coverage.

Regarding **claim 6** as applied to claim 1, Lin as modified by Wong disclose the claimed limitation except wherein the network component is operable to employ the determination to initiate the request to promote an avoidance of congestion in one or more cellular network communication paths.

However, O'Donnell discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) is operable to employ the determination to initiate the request to promote an avoidance of congestion in one or more cellular network communication paths (automatically mapping the

areas of poor coverage helps in that minimal loading is required on the current system, see col. 7, lines 36-47).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin and Wong by employing the information on the areas with poor network coverage in order to reduce overloading or cell traffic in that area/region of a network map.

Regarding **claim 7** as applied to claim 6, Lin as modified by Wong and O'Donnell disclose the claimed limitation. O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) makes the determination to initiate the request upon an exceedance of the one or more call characteristics relative to one or more thresholds (BSC requests for the position of mobile station 4 if the signal strength is above a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38); and wherein upon the exceedance of the one or more call characteristics relative to the one or more thresholds, the network component and the position component (GPS receiver 220, see fig. 2, col. 5, line 6) are operable to cooperate to obtain the one or more positions of the one or more mobile stations (see col. 4, lines 66-67, col. 5, lines 1-7).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin and Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 8** as applied to claim 7, Lin as modified by Wong and O'Donnell discloses the claimed limitation. O'Donnell further discloses wherein upon a termination of the exceedance of the one or more call characteristics relative to the one or more thresholds (see col. 5, lines 33-59), the network component (base station controller BSC, see figs. 3, lines 33-38) and the position component (GPS receiver 220, see fig. 2, col. 5, line 6) are operable to cooperate to discontinue attainment of the one or more positions of the one or more mobile stations (see col. 5, lines 33-59).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin and Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 9** as applied to claim 1, Lin as modified by Wong disclose the claimed limitation except wherein the network component is operable to employ the one or more call characteristics to perform a selection of the one or more mobile stations from a plurality of mobile stations, and wherein the network component is operable to employ the selection to formulate the request for the one or more positions of the one or more mobile stations from the plurality of mobile stations.

However, O'Donnell discloses the claimed limitation. O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) is operable to employ the one or more call characteristics

(signal strength, see col. 6, lines 39-46) to perform a selection of the one or more mobile stations from a plurality of mobile stations (mobile stations 4 transmit signal quality measurements to the BSC and if the measured signal strength is below of above a threshold value, the BSC identifies the location of the associated mobile station 9, see figs. 3 and 4, col. 6, lines 6-23), and wherein the network component is operable to employ the selection to formulate the request for the one or more positions of the one or more mobile stations from the plurality of mobile stations (see figs. 3 and 4, col. 6, lines 6-23).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 10** as applied to claim 1, Lin as modified by Wong disclose the claimed limitation except wherein the one or more mobile stations are associated with the one or more cellular network cells; and wherein the network component is operable to employ the one or more call characteristics to perform a selection of the one or more cellular network cells from a plurality of cellular network cells; and wherein the network component is operable to employ the selection to formulate the request for the one or more positions of the one or more mobile stations that are associated with the one or more cellular network cells.

However, O'Donnell discloses wherein the one or more mobile stations (mobile stations 4, see fig. 3, col. 6, line 11) are associated with the one or more cellular network cells (see col. 5, lines 60-67, col. 6, lines 1-5); and wherein the network component (base station controller BSC, see figs. 3, lines 33-38) is operable to employ the one or more call characteristics (signal strength, see col. 6, lines 39-46) to perform a selection of the one or more cellular network cells from a plurality of cellular network cells (mobile stations 4 transmit signal quality measurements to the BSC and if the measured signal strength is below of above a threshold value, the BSC identifies the location of the associated mobile station 9, see figs. 3 and 4, col. 5, lines 60-67, col. 6, lines 1-23); and wherein the network component is operable to employ the selection to formulate the request for the one or more positions of the one or more mobile stations that are associated with the one or more cellular network cells (see figs. 3 and 4, col. 6, lines 6-23).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin, Wong and O'Donnell by requesting for a position of a mobile device based on the RSSI of the mobile station and determining a visual indication of network coverage for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 11** as applied to claim 10, Lin as modified by Wong and O'Donnell disclose the claimed limitation. O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) is

operable to employ the switch component (mobile switching center MSC, see col. 5, lines 40-42) to identify the one or more mobile stations that are associated with the one or more cellular network cells (see col. 5, lines 32-49); and wherein the network component is operable to employ the switch component to determine the one or more positions of the one or more mobile stations that are associated with the one or more cellular network cells (see col. 5, lines 32-49).

Regarding **claim 12** as applied to claim 1, Lin as modified by Wong disclose the claimed limitation except wherein the network component receives the one or more positions of the one or more mobile stations in response to the request; and wherein the network component is operable to is operable to employ the one or more positions of the one or more mobile stations and the one or more call characteristics to develop a coverage map.

However, O'Donnell discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) receives the one or more positions of the one or more mobile stations in response to the request (mobile station transmits location information to the BSC, see figs. 3 and 4, col. 6, lines 24-28); and wherein the network component is operable to is operable to employ the one or more positions of the one or more mobile stations and the one or more call characteristics to develop a coverage map (the determined geographical can be mapped to provide a visual representation of areas with poor coverage, see col. 4, lines 45-52).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin,

Wong and O'Donnell by requesting for a position of a mobile device based on the RSSI of the mobile station and determining a visual indication of network coverage for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 13** as applied to claim 1, Lin as modified by Wong disclose the claimed limitation except the switch component that provides the one or more call characteristics to the network component, wherein the network component is operable to employ the one or more call characteristics to make a determination to initiate a request to the switch component; and wherein the switch component is operable to employ to obtain the one or more positions of the one or more mobile stations based on the request to the switch component.

O'Donnell however discloses the switch component (mobile switching center MSC, see col. 5, lines 40-42) that provides the one or more call characteristics (signal strength, see col. 6, lines 39-46) to the network component (base station controller BSC, see figs. 3, lines 33-38), wherein the network component is operable to employ the one or more call characteristics to make a determination to initiate a request to the switch component (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38); and wherein the switch component is operable to employ to obtain the one or more positions of the one or more mobile stations based on the request to the switch component (see col. 5, lines 33-49).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin

and Wong with the teaching of O'Donnell by requesting for a position of a mobile device based on the RSSI of the mobile station and determining a visual indication of network coverage for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 14** as applied to claim 13, Lin further discloses wherein the network component (see fig. 1, p.2, [0032]) provides to the switch component at least one call parameter (see p.5, [0071]-[0074]); wherein the switch component employ is operable to employ the at least one call parameter to perform an identification of the one or more mobile stations from a plurality of mobile stations; (see p.5, [0071]-[0074]) wherein the switch component is operable to employ the identification of the one or more mobile stations from the plurality of mobile stations to obtain the one or more positions of the one or more mobile stations (see p.5, [0071]-[0074]).

Regarding **claim 15** as applied to claim 14, Lin further discloses wherein the one or more mobile stations are associated with one or more calls (see p.5, [0071]-[0074]); wherein the switch component is operable to employ the at least one call parameter to perform an identification of the one or more calls from a plurality of calls (see p.5, [0071]-[0074]); wherein the switch component employs the identification of the one or more calls from the plurality of calls to obtain the one or more positions of the one or more mobile stations that are associated with the one or more calls (see p.5, [0071]-[0074]).

Regarding **claim 16** as applied to claim 13, Lin as modified by Wong and O'Donnell disclose the claimed limitation. O'Donnell further discloses wherein the

network component (base station controller BSC, see figs. 3, lines 33-38) and the switch component (mobile switching center MSC, see col. 5, lines 40-42) are operable to receive the one or more positions of the one or more mobile stations from the position component (the MSC and BSC receive the current location of the mobile station, see col. 5, lines 33-49, col. 6, lines 38); and wherein the network component and the switch component are operable to cooperate to develop a coverage map through employment of the one or more positions of the one or more mobile stations (see col. 5, lines 49-52, col. 6, lines 32-38).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin, Wong and O'Donnell by requesting for a position of a mobile device based on the RSSI of the mobile station and determining a visual indication of network coverage for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 17** as applied to claim 16, Lin as modified by Wong and O'Donnell discloses the claimed limitation. O'Donnell further discloses wherein the position component (GPS 220, see fig. 2, col. 5, line 6) is operable to employ one or more of an Enhanced Forward Link Trilateration algorithm and an 1S-80l solution using an Assisted Global Positioning System (AGPS), Advanced Forward Link Trilateration (AFLT) or combined AGPS/MLT algorithm to determine the one or more positions of the one or more mobile stations (the position of the mobile station can be determined using the GPS receiver in the

mobile station or by employing triangulation, see col. 5, lines 2-19, col. 6, lines 24-32).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin, Wong and O'Donnell by employing a GPS receiver for the determining accurate geographical locations.

Regarding **claim 19**, as applied to claim 18, Lin as modified by Wong disclose the claimed limitation, but does not specifically disclose wherein the step of initiating the request from the network component to the switch component for the one or more positions of the one or more mobile stations through employment of the one or more call characteristics further comprises the steps of: performing a comparison of the one or more call characteristics with one or more thresholds, and initiating the request for the one or more positions of the one or more mobile stations based on the comparison.

In the same field of endeavor, O'Donnell further discloses wherein the step of initiating the request from the network component to the switch component for the one or more positions of the one or more mobile stations through employment of the one or more call characteristics further comprises the steps of: performing a comparison of the one or more call characteristics with one or more thresholds (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38), and initiating the request for the one or more positions of the one or more mobile stations based on the comparison (BSC requests for the position of

mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by O'Donnell by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 20**, as applied to claim 19, Lin as modified by Wong and O'Donnell disclose the claimed limitation. O'Donnell further discloses wherein the step of initiating the request from the network component to the switch component for the one or more positions of the one or more mobile stations based on the comparison further comprises the steps of: determining the at least one call parameter (BSC compiles the mobile station identification, see col. 6, lines 32-35) associated with the one or more thresholds (see col. 6, line 32-38), identifying the one or more mobile stations from a plurality of mobile stations through employment of the at least one call parameter (see col. 6, line 32-38); and initiating the request for the one or more positions of the one or more mobile stations through employment of the at least one call parameter (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by Wong by requesting for a position of a mobile

device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 23** as applied to claim 5, Lin as modified by Wong and O'Donnell disclose the claimed limitation. O'Donnell further discloses wherein the thresholds provide a measure of a quality of service provided to the one or more mobile stations (visual representation of service levels, see col. 6 lines 33-39).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Lin, Wong and O'Donnell by requesting for a position of a mobile device based on the RSSI of the mobile station and determining a visual indication of network coverage for the benefit of identifying areas in a network with poor network coverage.

Regarding **claim 25** as applied to claim 1, Lin as modified by Wong disclose the claimed limitation except wherein the network component limits a number of requests for the one or more positions of the one or more mobile stations based upon a comparison of the one or more call characteristics with one or more thresholds.

However, O'Donnell further discloses wherein the network component limits a number of requests for the one or more positions of the one or more mobile stations based upon a comparison of the one or more call characteristics with one or more thresholds (limiting the number of requests made by the BSC for the position of mobile stations by adjusting the threshold levels of the signal strength in the cells such that the number of requests is

limited based on increasing/decreasing the specified signal quality threshold of the cells, see col. 5, lines 52-67, col. 6, lines 1-28).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of O'Donnell into the system of Lin as modified by Wong by requesting for a position of a mobile device based on the RSSI of the mobile station, for the benefit of identifying areas in a network with poor network coverage.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lin 20020025824** in view of **Wong 7,039,403** and **O'Donnell 6,266,514** as applied to claim 16 above and further in view of **Alperovich et al 6,233,448** (**hereinafter Alperovich**).

Regarding **claim 22** as applied to claim 16, Lin as modified by Wong and O'Donnell, discloses the claimed limitation except wherein the position determination component is pre-provisioned with one or more intervals of time to determine the one or more positions of the one or more mobile stations.

Alperovich, however, discloses a position determination component that is pre-provisioned with one or more intervals of time to determine the one or more positions of the one or more mobile stations (see fig. 1, col. 3, lines 29-64).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Alperovich into the system of Lin as modified by Wing and O'Donnell for the benefit of determining the current position of a mobile station.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lin 20020025824** in view of **Wong 7,039,403** and **O'Donnell 6,266,514** as applied to claim 4 above, and further in view of **Powers et al 6,832,086** (**hereinafter Powers**).

Regarding **claim 25** as applied to claim 4, Lin as modified by Wong and O'Donnell disclose the claimed limitation except wherein on of the one or more call statistics is a number of dropped calls within an hour.

In the same field of endeavor, Powers discloses a network component that create call statistics, wherein the call statistics is a number of dropped calls within an hour (BSC determining a number of dropped calls within an hour, see figs. 1-4, col. 5, lines 25-31).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Powers, by using the BSC to determine a number of dropped calls within an hour in a cell/area, into the system of Lin as modified by Wong and O'Donnell for the benefit of benefit of taking corrective/preventive action in the cell/area to reduce the number of dropped calls in the cell/area.

(10) Response to Argument

Regarding claims 1 and 18, the appellants assert that Lin as modified fails to disclose the network component comprises one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium. Specifically, the appellants' representative asserts that the network component of Lin (base station) and the network

component of Wong (HLR) are "**different elements**" and thus not similar to applicants' claim 1 because claim requires only one "network component" (i.e., the examiner is using two different elements to reject claim 1). The examiner respectfully disagrees with the appellants' analysis and arguments of claims 1 and 18. Lin does disclose that the network component is a base station, but does not specifically disclose that the base station storage medium comprises one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium, a recited in claim 1. Wong is used to teach the functionality of having a network component comprising one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium.

Therefore, Lin as modified by Wong (indicating the **incorporation of the feature** of a storage medium being one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium, in a network component such as a base station (**the examiner notes a base station already has a form of storage medium, see Lin p.3, [0038]-[0039]**), and not incorporation of the whole HLR as being argued by the appellants), clearly reads on the applicants' claimed limitation.

The appellants further assert that the "network component" cannot be a base station as taught by Lin and a HLR as taught by Wong because the base station and HLR are not equivalent, and hence the combination is improper. The examiner respectfully disagrees. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably

pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, Claims 1 and 18 disclose "**a network component**". The network component comprises one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium. Lin is cited for teaching the network component being a base station, but does not specifically disclose that the base station storage medium comprises one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium. One of ordinary skill in the art can reasonably conclude that the base station of Lin has a storage medium (see base station 30 of the cellular network, with storage/database for storing position data, p.3, [0038]-[0039]). Lin also discloses a HLR, as a "network component" in a cellular network that comprises the base station (see fig. 1, p.3, [0039], HLR with storage). However, it is not explicitly stated that the storage medium of the base station 30 is **one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium**. Wong is used to teach the functionality of having a network component comprising one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium. Even though the network components of Lin and Wong are different, Wong clearly discloses a storage medium comprising one of a magnetic data storage medium, an optical

data storage medium, a biological data storage medium, or an atomic data storage medium (i.e., the HLR 34 and base station 30 of Lin each have a storage medium that stores position data. They might be "different elements", but they both have storage media that perform the same function. Wong is simply used to incorporate the feature of having storage medium being a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium because Wong discloses a HLR with an optical/magnetic storage medium).

In response to the appellants' argument that the network component cannot be both a base station and a HLR, the appellants' are making an incorrect assumption by indicating/assuming that the examiner is replacing the base station with the HLR. The combination of Lin and Wong is not a combination of putting different network components together to meet the claimed limitations, but rather using the functionality of one network component with another network component (i.e., not physically incorporating the network components HLR and base station as being argued by appellants). The examiner is modifying Lin by incorporating the feature of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium as disclosed in the HLR of Wong.

The appellants' also assert that the proposed combination of Lin and Wong would not result in a "properly functioning system". The appellants' assert that the HLR of Wong and base station of Lin have different functions and thus the combination of Lin and Wong will not result in a properly functioning system.

The examiner respectfully disagrees. As already disclosed above, the HLR 34 and base station 30 of Lin each have a storage medium that stores position data. They might be "different elements", but they both have storage media that perform the same function. Wong is used to incorporate the feature of having that storage medium being a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium because Wong discloses a HLR with an optical/magnetic storage medium. The examiner therefore maintains that Lin as modified by Wong, by incorporating of the feature of a storage medium being one of a magnetic data storage medium, an optical data storage medium, a biological data storage medium, or an atomic data storage medium, in a base station clearly reads on the appellants' claimed limitation and does result in a properly functioning system.

Regarding claim 2, the appellants assert that combination of Lin, Wong and O'Donnell does not result in a properly functioning system. The examiner respectfully disagrees with the appellants. The examiner notes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

In this case, O'Donnell clearly discloses the claimed limitation "wherein the network component is operable to perform a comparison of the one or more call characteristics with one or more thresholds to make the determination to initiate the request for the one or more positions of the one or more mobile stations", as recited in claim 2. Even though this is taught by O'Donnell at the base station control and not the base station, the base station controller is a network component of a cellular network. Furthermore, all the claimed elements/component as disclosed in claims 1 and 2 were known in the prior art and one skilled in the art could have modified or combined the elements as claimed with no change to their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art (*KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007); Sakraida v. AG Pro, Inc., 425 U.S. 273, 282, 189 USPQ 449, 453 (1976)) . The examiner also notes that the prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success (In re Merck and Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)).

In response to appellants' arguments against the references individually (i.e., the appellants' arguments that Lin discloses the positions continuously, and O'Donnell determining the mobile's location when a quality measure falls below or above a specified threshold), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, O'Donnell clearly teaches a network component performing the claimed limitation "wherein the network component is operable to perform a comparison of the one or more call characteristics with one or more thresholds to make the determination to initiate the request for the one or more positions of the one or more mobile stations", as recited in claim 2. The examiner therefore maintains that Lin, as modified by Wong and O'Donnell read on all of the applicants' limitations as recited for the reasons already stated above.

Claims 22 and 26 are rejected for the same reasons as claim 1, already stated above.

Claims 3-5 and 23 are rejected for the same reasons as claim 2, already stated above.

Claims 6-17, 19-20 and 25 are rejected for the same reasons as claims 1 and 18, already stated above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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